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Johns-Manville

October 7, 1985

Mr. Rodney Gaither
Hazardous Waste Enforcement Branch
U.S. EPA Region 5
230 South Dearborn Street
Chicago, IL 60604

Dear Mr. Gaither:

PRC Environmental Management, Inc. has reviewed "Technical Memorandum #M-2: Analysis of Common Inorganic Anions in Surface and Ground Water and Ambient Air Quality Monitoring for Lead and TSP", September 1985. This report was prepared by Kumar Malhotra & Associates, Inc. (KMA) for the Johns-Manville Disposal Site in Waukegan, Illinois. PRC's review, conducted as part of TES 2 Work Assignment No. 234, focuses on the air monitoring study (conducted by Clayton Environmental Consultants under subcontract to KMA) and includes the following sections of Technical Memorandum #M-2: Sections 1.0, 2.0, and 4.0; Appendices M-2-A and M-2-C. INTERA Technologies, Inc. is reviewing portions of the Technical Memorandum related to surface and ground water and will submit their review in a separate letter report.

PRC agrees with the conclusions of the Technical Memorandum that "the Johns-Manville disposal area does not appear to be releasing lead to the atmosphere" and that ambient air lead levels do not "pose a threat to the human health or environment in the vicinity of the disposal area." PRC also agrees that the total suspended particulate (TSP) levels measured during the study do not "exhibit any adverse impact on human health or environment." All on-site ambient air concentrations of lead and TSP measured in the study were below the applicable National Primary and Secondary Ambient Air Quality Standards (NAAQS) as published in 40 CFR Parts 50.6 and 50.7 for TSP and 40 CFR Part 50.12 for lead.

In reviewing Technical Memorandum #M-2, PRC noted two study procedures that deviated from the study plan submittted by KMA in their July 3, 1985 letter; three calculations that appear to be in error; and one area where the presentation of study results could be improved. These items are described briefly below. It should be stated, however, that these items, either individually or in combination, are not likely to affect the study conclusions.

1. Page 5 of Section 4.0 of Technical Memorandum #M-2 indicates that 0.2 inches of precipitation were recorded by the National Climatic Data Center (NCDC) during the third sampling period. The study plan indicated that test runs would be repeated if precipitation greater than 0.1 inch occurred during the run. The Technical Memorandum states that in spite of the NCDC's measurements, "no rainfall of any significance was observed in the air sampling area" during the third test run. Rainfall may have occurred during a period when sampling personnel were not present to observe it. The Technical Memorandum does not mention on-site precipitation measurements. In the absence of these measurements, the recorded NCDC precipitation data should have taken precedence over the subjective judgements of sampling personnel. The third test run probably should have been repeated, based on the acceptability criteria outlined in the study plan.

2. The July 3 study plan stated that sampling air flows would be between 39 and 60 cubic feet per minute (cfm) as required by 40 CFR 50, Appendix B, the reference method for TSP sampling with high-volume air samplers. Appendix B to Section 4.0 of the Technical Memorandum indicates that sampling at 4 of the 10 stations was conducted at air flows significantly (up to 50%) higher than the 60 cfm maximum. It is not possible to quantify the effects of higher air flows on sample results, although it is likely that the reported results underestimate the true ambient concentration. Although additional air is pulled into the sampler, particles within the air will have greater momentum near the sampler inlet. The flow path through the inlet to the filter is curved and larger particles with greater momentum will not be able to make the turns, thereby escaping collection.

3. Three of the sample flows presented in Appendix B to Section 4.0 of the Technical Memorandum appear to be calculated incorrectly. When sample flow is measured with an orifice meter as appears to have been done, sample flow if roughly proportional to the square root of Delta H. The flow rates listed for Site 1/Run 1, Site 2/Run 3, and Site 3/Run 1 are not consistent with this relationship. The flow for Site 1/Run 1 is over-estimated, assuming Delta H is correct; the flows for Site 2/Run 3 and Site 3/Run 1 are underestimated if Delta H values are correct. Correction of the air flows would not significantly affect the calculation of TSP or lead concentrations.

4. The presentation of the mass of lead per filter in Appendix B to Section 4.0 of the Technical Memorandum is confusing. The numbers in the "Lead (Milligr)" column appear to have been corrected for recovery of spiked samples but not for the presence of lead in field blank filters. The field blank value of 0.02 mg must be subtracted from the "Lead (Milligr)" column prior to dividing by the total air volume in order to arrive at the air concentrations presented. The tables should have indicated that the lead values were not corrected for field blank results. This comment

concerns the clarity of the presentation but does not change the reported results.

Again, because of the very low lead concentrations measured by the study (roughly two orders of magnitude below the NAAQS for lead), none of these problems should affect KMA's conclusion that air lead concentrations at the Johns-Manville Disposal Site do not pose a significant public health or environmental threat.

Please contact me if you have any questions concerning PRC's comments on the air lead study.

Sincerely,

PRC Environmental Management, Inc.

John Dirgo

John Dirgo
Environmental Scientist

JD/mrj

cc: Nancy Deck (2 copies)
Bruce Bakaysa
Seth Dibblee